To: DERMOTT COURTNEY USEPA

FROM: BRIGGS NYSDEC 2 pages

FILE

AKZO

Salt Division

7 December 1992

Dermott Courtney
Underground Injection Control Section
USEPA Region II
Jacob J. Javits Federal Building
New York NY 10279

Ref: UIC Permit NYU 63860

Dear Mr. Courtney:

This letter follows the completion report for Well 58 at our Watkins Glen, NY salt refinery and gives details on the planned use of a protective oil blanket.

Protective blankets are commonly used in the salt solution mining industry to control cavern development by inhibiting upward dissolution of salt. Blankets have been used at various times in the past at the Watkins Glen brinefield and have consisted of air, fuel oil, or propane. No other well in the field presently has a blanket in place.

Well 58 was designed to be operated independently without hydrofracturing to another well. It will be leached to an average radius of 100 feet and a maximum radius of no more than 200 feet. An initial 5000 gallons of no. 2 fuel oil will be placed in the 7" x 9-5/8" annulus to force outward growth of the cavern walls. Additional oil will be added to maintain adequate blanket thickness as the cavern widens, up to a final volume of 30,000 gallons. This will result in an average oil thickness of 1.5 inches. A cavern will be created by initially undercutting a thin cavity at the bottom of the well to nearly the design diameter, then mining upward. Upward growth will be allowed either by periodically withdrawing oil, or by relying on the blanket thinning enough for its effectiveness to become reduced.

Safeguards are in place to prevent contamination of either the groundwater or our product with the blanket oil. Two steel casings are fully cemented to surface through the shallow drinking water zone. The production casing was constructed with API modified couplings;

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this is a standard 8-round thread with a teflon sealing ring added. Cementing records and a cement bond log demonstrating isolation of the permitted injection zone from overlying formations were included with the well completion report. A report of the pressure test performed on the well which demonstrates mechanical integrity of the casings and casing shoe was also included. Future periodic demonstrations of mechanical integrity are planned in accordance with the conditions of our permit. There is a risk of producing oil with the brine from the well, either due to operator error or to the failure of a hanging tubing caused by a roof fall. This brine flows to a large open pond, where any oil will be gathered from the surface without contaminating the process fluid.

The final goal of this program is to effectively exploit the salt resource in a continuously controlled manner, maximizing salt recovery and quality while maintaining a stable cavern. By controlling the shape of the cavern and preventing communication with other wells we expect to achieve the potential of later converting the cavern to use for storage of products such as LPG or natural gas.

It is our understanding that the small amounts of oil placed in a solution mining well for the intent of controlling leaching is normally treated as a well stimulation fluid, and so we do not expect that a modification of our injection permit should be required.

If you require any further information, please call me at 717/587-9363. Thank you for your attention to this matter.

Sincerely,

Michael J. Schumacher
Minerals Development Engineer

cc: J. Loose
J.A.C. Atkins
P. Briggs - NYDEC
MJS/mjs

courtney